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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,448	01/02/2002	Shinya Mizone	Y-190	5944

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EXAMINER

DABNEY, PHYLESHA LARVINIA

ART UNIT PAPER NUMBER

2646

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/030,448	Applicant(s) MIZONE ET AL.	
	Examiner Phylesha L. Dabney	Art Unit 2646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 4-7 is/are allowed.
6) ☒ Claim(s) 1-3, 8-12 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to the application filed on 18 November 2005 in which claims 1-12 are pending.

Specification

The disclosure is objected to because of the following informalities: there are enumerable values listed in the specification that do not have units of measurement attached, such as the extent of foaming quantities. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the instance where the polyethylene terephthalate (claim 2) or the polyethylene naphthalate (claim 3) has an average cell size is 30 um, the specification fails to teach that the extent of foaming quantity of 3.8-5.4 or 4, respectfully.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the art, the terminology "extent of foaming" is referenced to apply to a duration of time for a step in the foaming process or the expansion of the foam. Therefore, the Examiner requests a detailed explanation of how the 3.8 to 5.4 extent of foaming is performed and its effect on the 30 um or less average cell size of the polyethylene terephthalate or the polyethylene naphthalate material. Particularly, it is not understood where in the foaming process the quantities claimed are being calculated, what measured properties are being used to ascertain the extent of foaming quantities, and what unit of measurement applies to the extent of foaming quantities.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoo et al (U.S. Patent No. 6,385,328) in view of Thomas et al (U.S. Patent No. 6,723,761).

Regarding claims 1 and 8, Yoo teaches a speaker comprising: a magnetic circuit (21, 25-26) having a center magnetic pole (25) and an air gap; a voice coil (32) wound around a voice

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coil bobbin (24) disposed in the air gap of the magnetic circuit; a frame (20, 20b) mounted onto the magnetic circuit; and a cone-shaped diaphragm (42; col. 8 lines 35-37 teaches separate diaphragm, col. 10 lines 57-58 teaches cone shape) made from resin disposed between the frame and one end of the voice coil bobbin.

Yoo does not teach a foamed resin having 30 um in average cell size.

Thomas teaches a foamed resin (Table 1 lists foamed resin, col. 3) having a cell size of 30 um (which reads on the foamed resin having a length dimension of 50 um, A_1 ; an orthogonal dimension of 20 um, A_2 [col. 4 lines 3-13]; and a thickness dimension of less than 30 um, A_3 , [col. 1 lines 41-44] such that the average cell size (if A_3 is 20um, then $(A_1+A_2+A_3)/3$ equals 30um) as transducer diaphragm material for decreased deformation and distortion. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a foamed resin diaphragm having a 30 um cell size in the invention of Yoo as taught by Thomas to beneficially provide reduced deformation and distortion, thereby improved sound quality.

Regarding claims 2-3 and 9, the combination of Yoo and Thomas teaches the resin making the cone-shaped diaphragm is polyethylene terephthalate or polyethylene naphthalate (Thomas, Table 1 column 3).

Allowable Subject Matter

Claims 4-7 are allowed.

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L. Dabney whose telephone number is 571-272-7494. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 5, 2006


PLD


SINH TRAN
SUPERVISORY PATENT EXAMINER